II. Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method of exchanging data between a ~~wind~~ wired network and a wireless network, comprising the steps of

a) providing at least two data links between said networks;

b) measuring impedance on each data link; and

c) transmitting said data across the data link having the lowest impedance.

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2. (Original) A method as defined in claim 1 wherein said data links are wireless.

3. (Currently amended) A method as defined in claim 1 wherein a ~~fast~~ first of said data links is established on a Spread Spectrum band.

4. (Currently amended) A method as defined in claim 1 ~~Rather~~ further comprising the step of

d) Providing each of the networks with an IEEE 802.11 node, wherein one of said data links is established therebetween.

5. (Original) A method as defined in claim 1 wherein one of said data links is a satellite RF packet network.

6. (Original) A method as defined in claim 1 wherein one of said data links is a terrestrial RF packet network.

7. (Original) A communications system, comprising
a mobile communications network having a mobile node,
a fixed communications network having an access point,
a pair of alternative data links, each of which joins said mobile node with said access point, and
a switching unit for switching between said alternative data links to exchange data between said mobile node and said access point.

8. (Original) A method as defined in claim 7 wherein said node is Internet addressable.

9. (Original) A system as defined in claim 7, further comprising a measuring module for measuring impedance on each of said data links, said switching unit being operable to select the data link having the least impedance.

10. (Original) A system as defined in claim 7 wherein both said mobile node and said access point include IEEE 802.11 nodes.

11. (Original) A system as defined in claim 7 wherein said mobile communications network includes a plurality of mobile nodes.

12. (Original) A system as defined in claim 10 wherein each of said mobile nodes is on a vehicle.

13. (Original) A system as defined in claim 7 wherein said fixed communications network includes a plurality of access points, wherein said data link joins each mobile node with at least one access point.

14. (Original) A system as defined in claim 13 wherein some of said access points are located adjacent a roadway.

15. (Original) A system as defined in claim 12 wherein each mobile node is Internet addressable.

16. (Currently amended) A system as defined in claim 12 wherein each mobile node is ~~IM~~ IPv6 addressable.

17. (Original) A communications network for exchanging data between a plurality of vehicles, comprising a computing unit onboard a corresponding vehicle, each computing unit operable in a first phase to broadcast enquiry messages in a region surrounding said vehicle, a second phase to receive reply messages from, other vehicles in said region, a third phase to exchange status messages with selected ones of said other vehicles.

18. (Original) A network as defined in claim 17 wherein each computing unit includes an IEEE 802.11 node.

19. (Original) A network as defined in claim 18 wherein each computing unit exchanges data using an SNMP-derived protocol.

20. (Previously presented) A network as defined in claim 18 wherein each node is Internet addressable.

21. (Original) A vehicle comprising an onboard computing unit which is operable in a first phase to broadcast enquiry messages in a region surrounding said vehicle, a second phase to receive reply messages from computing units of other vehicles in said region, a third phase to exchange status messages with computing units of selected other vehicles.

22. (Previously presented) A vehicle as defined in claim 21 which is operable in a fourth phase to exchange data with a remote site.

23. (Original) A vehicle as defined in claim 21 wherein the remote site is a network gateway, which routes communications between a wireless mobile data link and a non-mobile network.

24. (Original) A vehicle as defined in claim 21 wherein said computing unit includes an IEEE 802.11 node.

25. (Original) A vehicle as defined in claim 24 wherein said computing unit is capable of exchanging data using an SNMP protocol.

26. (Original) A hybrid communications system, comprising a wired network portion and a wireless network portion, each having a network connection node, at least two data link means between the network connection nodes, and a switch means for enabling either of the data links for data exchange between said connection nodes.

27. (Currently amended) A system as defined in claim 26 further comprising measurement means for measuring impedance on said data links, said ~~switchmeans~~ switch means being

responsive to said measurement means for enabling the data link having a lower impedance.

28. (Currently Amended) A vehicle communications system having a controller, a ~~datapathway~~ data pathway joining said controller with a plurality of vehicle components and means for establishing a data link with other vehicles within a given region surrounding said vehicle in order to exchange data therewith.

29. (Original) A system as defined in claim 28 wherein said data link is operable in the Spread Spectrum band.

30. (Original) An operational event-reporting system for use by a plurality of neighboring vehicles to support IVHS comprising a plurality of communication units, each onboard a corresponding vehicle to collect operational data from selected components thereof and to exchange data with the communication units of one or more of the neighboring vehicles.

31. (Currently amended) A system as defined in claim 30 wherein the communication units broadcast messages on a Spread Spectrum ~~baud~~ band.

32. (Currently Amended) A method of exchanging data between a vehicle and at least one data exchange site, comprising the steps of providing the vehicle with a communication unit to collect vehicle operational data from selected components thereof and to exchange data with the data exchange site, and providing the vehicle with a transmitter and receiver capable of transmitting and receiving messages under an ~~the~~ SNMP protocol, to transmit messages representative of the vehicle operational data to the data exchange site.

33. (Original) A method as defined in claim 32 wherein the at least one data exchange site includes a neighboring vehicle.

34. (Previously presented) A method as defined in claim 33, further comprising the steps of
- exchanging discovery signals with neighboring vehicles; and
- exchanging status data with selected ones of the neighboring vehicles.

35. (Currently amended) A system for transferring data between a vehicle and another data exchange site, comprising a pair of data link means,[,] wherein at least one of said data link means has a varying signal impedance level and switch means for switching between said data link means so

that said data is transferred on the data line means having the least impedance.

36. (Original) A system as defined in claim 35 wherein a first of said data link means is operable in the Spread Spectrum band.

37. (Currently amended) ~~An~~ A system for transferring data between a vehicle and a data exchange site, ~~extension of the hybrid RF packet network~~ comprising:

(i) a communication unit located onboard the vehicle to collect vehicle operational data from selected components of the vehicle and to exchange data with the data exchange site under an SNMP protocol, the communication unit including an interface to an IEEE 802.11 data link ~~integrated in the Hybrid Network Radio;~~

(ii) an IEEE 802.11 Access Point acting as an IPv6 router and a foreign[,] mobility agent for ~~mobile nodes~~ the communication unit ~~implementing Mobile IP~~; and

(iii) an interface to a non-wireless subnetwork ~~from which the Hybrid Network Gateway can~~ to route mobile-terminated traffic through the ~~as~~ ~~MEE~~ IEEE 802.11 Access Point for the communication unit to exchange vehicle operational data with the data exchange site~~; and(iv) a cluster intelligence module, based on the establishment of ad hoc networks between a vehicle and its IEEE 802.11 neighbors.~~

38. (Currently amended) The system according to claim 37, wherein the data exchange site is a regulatory agency and the vehicle is operable to ~~mobile nodes that are ATP-enabled can~~ exchange Internet traffic with the regulatory agency ~~agencies~~ when a data link is established between the vehicle and the ~~over license-free wireless data links (IEEE 802.11) whenever connections are established with Mobile IP-enabled~~ Access Point[s].

39. (Currently amended) The system according to claim 38, wherein the data exchange site is another vehicle. ~~the cluster intelligence module is operable using ATP from vehicular node to acquire information about the automotive behavior of any of its discovered neighbors~~.

40. (Previously presented) A mobile automobile telemetry system for installation on-board an automobile, comprising:

(i) diagnostic means, in the automobile, for monitoring operational functions of the automobile and generating operational information;

(ii) a memory, in the automobile, for storing the generated operational information; and

(iii) a server, in the automobile, and in communication with the diagnostic means and the memory, the server comprising:

(a) means to receive a request from a requesting one of a plurality of remote clients for the generated operational information;

(b) means to translate the request from a requesting one of a plurality of remote clients to a form configured to retrieve the generated operational information;

(c) means to retrieve the generated operational information from the memory;

(d) means to translate generated operational information from the memory to a form configured to transmit said generated operational information; and

(e) means to transmit the generated operational information to the requesting remote client using a UDP/IP protocol that is universally acceptable to all of said remote clients.

41. (Previously presented) The system according to claim 40, wherein the means to receive and the means to transmit comprise wireless communication means.

42. (Previously presented) The system according to claim 40, further comprising means to transmit generated operational information to one of said plurality of remote clients, in the absence of a request from said one of said plurality of remote clients, when the generated operational information satisfies predetermined criteria.

43. (Previously presented) The system according to claim 40, further comprising an Internet access means, disposed in said automobile.

44. (Previously presented) The system according to claim 43, wherein the Internet access means is compliant with IP V6 Internet protocol and allows the server to act as a mobility agent.

45. (Previously presented) The system according to claim 40, further comprising means to interface to disparate acquisition sources including a global positioning system (GPS) receiver.

46. (Previously presented) The system according to claim 40, wherein said server implements a request/response protocol to act as a proxy for the diagnostic means.

47. (New) A method as defined in claim 32, further comprising the steps of providing at least two data links between the vehicle and the data exchange site; measuring impedance on each data link; and transmitting said vehicle operational data across the data link having the lowest impedance.

48. (New) A method as defined in claim 47 wherein said data links are wireless.

49. (New) A method as defined in claim 47 wherein a first of said data links is established on a Spread Spectrum band.

50. (New) A method as defined in claim 47 wherein one of said data links is a satellite RF packet network.

51. (New) A method as defined in claim 32, further comprising the steps of connecting the transmitter and receiver with a first 802.11 node and connecting the data exchange site with a second 802.11 node to form a data link between the first and second 802.11 nodes.

52. (New) A method as defined in claim 51 wherein said vehicle is Internet addressable.

53. (New) A method as defined in claim 32 wherein both said vehicle and the data exchange site communicate over a data link operable under an IEEE 802.11 protocol.

54. (New) A method as defined in claim 53 wherein the vehicle is IPv6 addressable.

55. (New) A system for transferring data between a vehicle and a data exchange site, comprising a communication unit located onboard the vehicle to collect vehicle operational data from selected components of the vehicle and to exchange data representative of the vehicle operational data with the data exchange site, a plurality of Mobile IP-enabled access points, the communication unit being operable to exchange Internet traffic with the data exchange site when a connection is established between the communication unit and one of said Mobile IP-enabled access points.

56. (New) A system for transferring data between a vehicle and a data exchange site, comprising a communication unit located onboard the vehicle to collect vehicle operational data from selected components of the vehicle and to exchange data representative of the vehicle operational data with the data exchange site, a plurality of Mobile IP-enabled access points, the communication unit and each of the access points including an 802.11 node to form a data link therebetween,

the communication unit being operable to exchange data representative of the vehicle operational data with the data exchange site when the data link is established between the communication unit and one of said Mobile IP-enabled access points.